

MONTANA DEPARTMENT OF FISH AND GAME
FEDERAL AID IN FISH RESTORATION SECTION
HELENA, MONTANA

JOB COMPLETION REPORT
INVESTIGATIONS PROJECTS

State of Montana

Project No. F-9-R-7

Job No. II

Name Southwest Montana Fishery Study

Title The Success of Stocking Cold-water Fish in the Rehabilitated Three Forks Ponds.

Period Covered May 1, 1958 to April 30, 1959

Abstract:

Grayling fry were stocked in the East Pond but it is believed that none survived. The Middle Pond remained toxic during 1958 and was stocked with two inch rainbow trout fingerlings in April, 1959. Non-feeding cutthroat trout were planted in the East Pond in April 1958 and one year later reached an average length of 9.0 inches.

Objectives:

To determine the success of stocking in cold water ponds.

Techniques and Findings:

Three adjacent cold water ponds (Three Forks Gravel Pits) were rehabilitated during 1957. The description of the ponds and the rehabilitation project are reported in the completion report for F-9-R-6, Job II. The fish planting committee of the Montana Fish and Game Department suggested that swim-up fry should be planted in the ponds during plankton blooms at the rate of 600 per acre, and the success of the plants should be evaluated. It was decided to stock grayling in the East Pond, rainbow trout in the Middle Pond and cutthroat trout in the West Pond. This was done to evaluate which species would make the best production fish for cold water ponds.

East Pond: This pond was rehabilitated on July 16, 1957 with toxaphene at a concentration of 0.13 ppm. By November 1957, the pond was considered non-toxic as test fish (rainbow trout and brown trout) lived over two months in suspended cages.

Approximately 7,000 grayling swim-up fry were stocked in this pond on June 26, 1958. The fry were distributed around the pond but most were planted in the protected bays at either end. Surface water temperature at the time of stocking was 69° F.

The fry were obtained from the Anaconda Hatchery and were from eggs collected at Georgetown Lake. They were transported in a 10 gallon milk can and ice was used to keep the water cool. All appeared in good condition when stocked.

No attempt was made to sample the fish during 1958. On April 15, 1959, two experimental gill nets were set and they were pulled the next day (29 hours later). No fish were taken. Although the bottom could be seen easily, no fish were observed from the shore or the boat. It is believed that none of the fish survived.

It is possible that grayling fry are highly susceptible to minute amounts of toxaphene which may have been present in the pond even though larger rainbow trout and brown trout survived. It is also possible that the fry may have come from poor stock. A few days after the stocked fry were obtained, the fry remaining at the Anaconda Hatchery were transferred to the Polson Hatchery and experienced a 100 percent mortality within two days.

Middle Pond: This pond was treated three different times in 1958 before a complete kill was obtained. The first treatment was on July 17 with Chem-Fish Special (0.7 ppm), the second was on September 17 with Pro-Noxfish (0.95 ppm), and the third during October with toxaphene (0.15 ppm). The pond was tested for toxicity several times during 1958 but was still considered toxic in the fall. The toxicity declined gradually as demonstrated by the length of time it took to kill the trout.

The pond was checked again in May and early April 1959. The ten rainbow trout lived over two weeks, so the pond was planted April 8, 1959. About 13,000 rainbow trout were stocked from the Bozeman Hatchery and a sample of 50 of these ranged in length from 1.4 to 2.1 inches with an average of 1.8. Some of these had very short or deformed caudal peduncles. The eggs were from brood stock raised at the Ennis Hatchery.

West Pond: This pond was chemically treated on July 18, 1957 with Pro-Noxfish at a concentration of 0.7 ppm. The water became non-toxic within three weeks after treatment.

Stocking in this pond consisted of about 7,000 non-feeding cutthroat trout fry obtained from the Bozeman Hatchery. The plant was made on April 29, 1958 when the surface water temperature was 50°F. The fish were distributed around the shore and most were placed on the lee side.

An overnight gill net set made on September 16, 1958 took 12 trout. Some of these were badly chewed by crayfish, but six ranged in length from 5.5 to 6.3 inches with an average of 5.8. A five hour set made on April 15, 1959 took five trout ranging in length from 8.2 to 9.7 inches with an average of 9.0.

Recommendations:

It is recommended that the East Pond be stocked with Grayling during 1959 if eggs are obtained. If this is not possible, the pond should be stocked with another species as determined by the district fish manager. It is also recommended that this job be dropped from F-9-R and further observations be carried under the general survey.

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Date April 29, 1959

Approved by George D. Holton
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